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(54) Disposable Nurser

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Description

BACKGROUND OF THE INVENTION

Field of the Invention.

This invention relates to a nursing apparatus, and more particularly, to disposable nursers having flexible liners or bottles.

Description of the Prior Art.

The use of disposable liners, referred to in the industry as bottles, with or without separate bottle holders is well known in the industry. The major problem that most of the prior art has attempted to solve is the means by which the flexible bag is filled and then connected to a nipple ready for use.

Many disposable nursing systems attach the liner directly to a cap to which a nipple is attached. Such a system is very difficult to use, resulting in slippage of the liner causing spillage or contamination of the sterile surfaces of the liner. U. S. Patent No. 2,508,481 issued to Adda Allen and U. S. Patent No. 2,520,335 issued to Thomas Piazze disclose such a system.

Many disposable nursers use a bottle holder to provide support and protection for the flexible bottle. The flexible bottle is inserted within the bottle holder with the flexible bottle's open end extending beyond the upper edge of the holder, and it is then folded outward and down along the bottle holder's exterior surface. The liner must be held in place with one hand while it is being filled and capped with the other, which frequently results in slippage of the liner causing spillage or contamination of the sterile surfaces of the disposable nurser. Frequently this type of system uses a cap which is screwed to the top of the bottle holder, causing the flexible bottle to pass between the threads of the cap and the bottle holder. This often results in leakage from torn liners or an inadequate seal between the cap and the flexible bottle. In such a system, it is also difficult to add additional fluid to the bottle after it has been sealed the first time. U. S. Patent No. 3,362,555 issued to Ricardo Soto discloses such an apparatus.

Some nursing systems do away with the threads and use a snap-on cap, or nipple, which reduces the problem caused by the threads but provides a system that is far less secure from accidental removal of the cap or nipple than a system using screw threads. Such prior art is disclosed by U. S. Patents issued to William Fitzpatrick, et al., No. 3,790,017, and to Thomas Piazze, No. 2,643,448.

U. S. Patent No. 3,161,311 issued to Frank Boston discloses a rubber band placed over the bottle holder which keeps the liner in place during filling and handling; however, the flexible bottle still passes between the screw threads which fasten the nipple to the bottle.

U. S. Patent No. 3,593,871 issued to Larry Bundy discloses a nipple which has been directly sealed to a bag, with both the nipple and th bag being disposable. The bag is filled through a separate filler tube. This solves the problems discussed above but provides a very inconvenient means for filling the bottle and a more expensive system.

U. S. Patent No. 2,599,630 issued to Emma Hair discloses a hard disposable container which may be held on a ring during the filling process, if the container is rigid enough. If the typical flexible bottle is used, it would be necessary to pass the open end of the bottle over the upper lip of this ring. This then places the liner between the threads of the ring and the nipple holding cap with all the same problems of slippage, tearing of the liner, and leakage, discussed above.

It remains clear that there is a need for a disposable nursing system which will hold the flexible bottle firmly during the filling process, would permit heating in a microwave, and provide a tight seal and secure connection between the nipple and the flexible bottle.

Reference is made to EP-A-0345694 which describes a nursing bottle comprising a conical glass shaped container around which is slidably mounted an annular counter-cap for engaging an annular ridge near the open end of the container. A nursing nipple is tightly pressed against the open end by means of an annular cap screwed on the container-cap.

SUMMARY OF THE INVENTION

In accordance with the present invention there is provided a disposable nurser comprising :

a bottle holder comprising a hollow frustum having a first portion and a second portion, having an exterior and an interior surface and having first and second ends, both said ends being open, said second end of said hollow frustum having a smaller circumference than said first end of said hollow frustum;

a flexible bottle having an open end and a closed end and having a first part including said open end and a second part including said closed end, said second part of said flexible bottle removably inserted within said bottle holder, such that said closed end is proximal to said second end of said bottle holder and said first part of said flexible bottle extends beyond said first end of said bottle holder, over said first end of said bottle holder, and downward adjacent to said exterior surface of said bottle holder;

a countercap comprising a sleeve having exterior and interior surfaces, having a first end and a second end, and having a first section and a second section, said sleeve so sized and configured that said first end of said sleeve may be slidably mounted over said second end of said bottle holder and said first part of said flexible bottle, such that said first part of said flexible bottle rests between said exterior surface of said bottle holder and said interior surface of said sleeve, and said sleeve may

be slid to a stop position, such that said first end of said sleeve is proximal to said first end of said bottle holder;

a stop means located at a predetermined point intermediate said first and second said ends of said bottle holder, such that when said countercap is mounted on said bottle holder, said first end of said countercap is prevented from advancing beyond said stop position;

a nipple removably connected to said first end of said bottle holder;

a nipple holding cap to which said nipple may be removably mounted, said cap having an interior surface; and

an attaching means wherein said nipple holding cap may be removably attached to said countercap, such that said nipple is connected to said first end of said bottle holder and is removably sealed in liquid flow relationship to said flexible bottle.

With the invention, the benefits gained by the use of disposable flexible bottles can be obtained, while retaining the benefit of the ease of handling provided by hard non-disposable bottles. The present invention can provide an arrangement which firmly clamps the flexible bottle within the bottle holder so that the bottle can be filled without fear of the flexible bottle's slipping, causing spillage and contamination. Such a system also permits placing of the bottle within a microwave for heating without having to attach a lid to hold the flexible bottle in place. Sealing a lid to the flexible bottle could cause excessive pressure build-up and exposure during the heating process.

BRIEF DESCRIPTION OF THE DRAWINGS

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a front elevation, half of which is broken away to show a cross section of the disposable nurser; and

FIGURE 2 is a detail of the front elevation of the disposable nurser.

Similar reference characters refer to similar parts throughout the two views of the drawings.

DETAILED DESCRIPTION

A preferred embodiment of the disposable nurser is illustrated in the drawing figures. The disposable nurser is generally indicated as 10 in the views of Figs. 1 and 2. Referring to Figs. 1 and 2, it can be seen that the disposable nurser 10 comprises a nipple 12, a nipple holding cap 14, a countercap 16, a bottle holder 18, and a flexible bottle 20.

The bottle holder 18 is comprised of a hollow frustum having a first end 22 and a second end 24, both of the ends being open. The hollow frustum includes those frustums whose vertex is at an infinite distance from the base, which would include a generally cylindrical configuration. The preferred embodiment incorporates a hollow frustum with a finite vertex. The bottle holder 18 also has a first portion 26 and a second portion 28. The circumference of the exterior surface 30 of the bottle holder 18 is greater around the first portion 26 of the bottle holder 18 than the circumference around the second portion 28 of the bottle holder 18, defining an annular shoulder 32 interposed between the first portion 26 and the second portion 28 of the bottle holder 18.

The flexible bottle 20 has an open end 34 and a closed end 36. The flexible bottle can also be considered to have a first part 38, which includes the open end and a second part 40 which includes the closed end 36. The second part 40 of the bottle 20 is inserted within the bottle holder 18 so that the closed end 36 of the bottle 20 is proximal to the second end 24 of the bottle holder 18. The first part 38 of the flexible bottle 20 is extended beyond the first end 22 of the bottle holder 18, is then turned downward over the top edge 42 of the bottle holder 18, thus lying between the top edge 42 and the nipple 12, and then along the exterior surface 30 of the bottle holder 18. To facilitate installation of the flexible bottle 20, the open end 34 of the flexible bottle 20 may be comprised of a pair of tabs 35 which may be perforated as at 37 for easy removal later.

The countercap 16 comprises a sleeve having an exterior surface 44 and an interior surface 46, a first end 48 and a second end 50, and a first section 52 and a second section 54. The first section of the countercap 52 has an interior circumference greater than the interior circumference of the second section 54, thus defining an annular shoulder 56 interposed between the first section 52 and the second section 54 of the countercap 16. The countercap 16 is so dimensioned and configured that it may be mounted on the bottle holder 18 by inserting the second end 24 of the bottle holder 18 into the first end 48 of the counter-cap 16 and then sliding the countercap 16 upward toward the first end 22 of the bottle holder 18. The countercap 16 may be slid upward on the bottle holder 18 over the open end 34 of the flexible bottle 20 so that the first part 38 of the bottle 20 lies between the interior surfaces 46 of the countercap 16 and the exterior surfaces 30 of the bottle holder 18.

In the preferred embodiment, the countercap 16 and the bottle holder 18 are so configured that the annular shoulder 32 of the bottle holder 18 and the annular shoulder 56 of the countercap 16 are opposed and engage one another, creating a stop means, preventing the countercap 16 from advancing further up the bottle holder 18. When the stop means is engaged, the first end 48 of the countercap 16 reaches a stop position 57 which is located intermediate the first end 22 and the second end 24 of the bottle holder 18. It can be easily seen that the shoulder 32 of the bottle holder 18 may be

located at any point intermediate the first end 22 and the second end 24 of the bottle holder 18. In the preferred embodiment, the opposing shoulders 32 and 56 are so located that the proper stop position 57 of the first end 48 of the countercap 16 is attained. In the preferred embodiment, the stop position 57 of the first end 48 of the countercap 16 is proximal to said top edge 42 of the bottle holder 18 but the first end 48 of the counter-cap 16 does not contact the nipple 12.

While the preferred embodiment identifies the stop means as a pair of opposing annular shoulders 32 and 56, it can be easily seen that as the bottle holder 18 comprises a hollow frustum, the exterior surface 30 may have a gradually increasing circumference and that the countercap 16 may be designed to have a similar slope to its interior surface 46. If the bottle holder 18 and the countercap 16 are so dimensioned, a friction stop will result as the countercap is slid upward on the bottle holder 18 toward the first end 22 of the bottle holder 18. It would also be a matter of design choice to use other types of interlocking protrusions on the interior surface 46 of the countercap and the exterior surface 30 of the bottle holder 18 to provide a stop means.

In Fig. 2, a protrusion 58 is shown located on the interior surface 46 of the first section 52 of the countercap 16. This protrusion 58 in the preferred embodiment is shown as a ridge type structure but may take any number of different configurations, including, but not necessarily limited to, nubs, a series of ridges, and so forth. In the preferred embodiment, three of these protrusions 58 are used as a means of controlling the tightness of the fit between the first section 52 of the countercap 16 and the first portion 26 of the bottle holder 18, which permits a fit tight enough to resist downward slippage of the countercap 16 and yet permit easy intentional removal of the countercap 16.

The nipple 12 is inserted within the nipple holding cap 14. The nipple holding cap 14 may then be removably attached to the countercap 16 by an attaching means which may be any of those means well known in the art. In the preferred embodiment, nipple holding cap 14 has a set of screw threads 60 formed on its interior surface, and screw threads 62 are formed about the exterior surface 44 of the countercap 16 proximal to the first end 48 of the countercap 16. The screw threads 60 of the nippie holding cap 14 may be removably engaged with the screw threads 62 of the countercap 16 causing the nipple 12 to be sealingly connected to the top edge 42 of the bottle holder 18. Since the flexible bottle 20 passes over the top edge 42 of the bottle holder 18, the flexible bottle 20 is therefore squeezed between nipple 12 and top edge 42 of the bottle holder 18, causing the flexible bottle 20 to be sealingly connected to the nipple and in fluid flow connection. The nipple 12 and the nipple holding cap 14 are further shown and described in my U.S. Patent No. 5020679, published on 4 June 1991. In the preferred embodiment, all the parts, with the exception of the nipple, which is constructed of latex rubber, are formed of plastic material. However, the disposable nurser may be made from any suitable materials.

Having thus set forth a preferred construction for the disposable nurser 10 of this invention, it is to b remembered that this is but a preferred embodiment. Attention is now invited to a description of the use of the disposable nurser 10.

The parts of the disposable nurser 10 are disassembled and cleaned prior to the next use with the nipple 12 generally being the only part requiring sterilization. A sterile flexible bottle is inserted within the bottle holder 18 so that the closed end 36 of the flexible bottle is proximal to the second end 24 of the bottle holder. The open end 34 of the flexible bottle 20 is separated and pulled downward by its tabs 35 over the top edge 42 of the bottle holder 18 and downward along the exterior surface 30 of the bottle holder 18. The countercap 16 is mounted over the second end 24 of the bottle holder 18 and slid upward along the bottle holder 18 passing over the first part 38 of the bottle 20 such that the open end 34 of the bottle 20 extends downward below the second end 50 of the countercap 16.

The countercap 16 is pushed to the stop position 57 such that the annular shoulder 32 of the bottle holder 18 and the opposing annular shoulder 56 of the countercap 16 are engaged and the first part 38 of the bottle 20 is pinched and held between the opposing shoulders. With the countercap 16 in the stop position, the protrusion 58 provides a friction fit between the countercap 16 and the bottle holder 18 resisting downward movement by the countercap 16.

Milk or other fluids may now be poured into the flexible bottle 20 and, if desired, the fluid may be heated in a microwave without risk of a buildup of pressure or risk of the flexible bottle 20 sliding free. When the milk or other fluid is warmed, the nipple 12 is placed within the nipple holding cap 14, which is then removably attached to the countercap 16. By tightly screwing the nipple holding cap 14 onto the countercap 16, the nipple 12 is sealingly attached to the flexible bottle 20 and a fluid flow relationship will exist between the nipple 12 and the flexible bottle 20. At this time, the tabs 35 may be removed along their perforations 37 so that the first part 38 of the bottle 20 now ends 39 at a point generally adjacent to the second end 50 of the countercap 16. The disposable nurser 10 is now ready for use.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above article without departing from the scope of the invention, it is intended that all matter contained in the above description, or shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense.

Claims

1. A disposable nurser (10) comprising:

a bottle holder (18) comprising a hollow frustum having a first portion and a second portion, having an exterior and an interior surface and having first (22) and second (24) ends, both said ends being open, said second end of said hollow frustum having a smaller circumference than said first end of of said hollow frustum;

a flexible bottle(20) having an open end (34) and a closed end (36) and having a first part (38) including said open end and a second part (40) including said closed end, said second part of said flexible bottle removably inserted within said bottle holder (18), such that said closed end (36) is proximal to said second end (24) of said bottle holder and said first part (38) of said flexible bottle extends beyond said first end (22) of said bottle holder, over said first end (22) of said bottle holder, and downward adjacent to said exterior surface of said bottle holder;

a countercap (16) comprising a sleeve having exterior (44) and interior (46) surfaces, having a first end (48) and a second end (50), and having a first section (52) and a second section (54), said sleeve so sized and configured that said first end (48) of said sleeve may be slidably mounted over said second end (24) of said bottle holder and said first part (38) of said flexible bottle, such that said first part (38) of said flexible bottle rests between said exterior surface of said bottle holder and said interior surface (46) of said sleeve, and said sleeve may slid to a stop position, such that said first end (48) of said sleeve is proximal to said first end (22) of said bottle holder;

a stop means (32, 56) located at a predetermined point intermediate said first (22) and said second (24) ends of said bottle holder (18), such that when said countercap (16) is mounted on said bottle holder, said first end (48) of said countercap (16) is prevented from advancing beyond said stop position ;

a nipple (12) removably connected to said first end (22) of said bottle holder;

a nipple holding cap (14) to which said nipple may be removably mounted, said cap having an interior surface; and

an attaching means (60, 62) wherein said nipple holding cap (14) may be removably attached to said countercap (16), such that said nipple is connected to said first end (22) of said bottle holder and is removably sealed in liquid flow relationship to said flexible bottle (20).

2. A disposable nurser as in claim 1 wherein said stop means comprises an annular shoulder (32) located on said exterior surface of said bottle holder (18), wherein said first portion of said bottle holder (18) has an exterior circumference greater than the exterior circumference of said second portion of said bottle holder (18), thus defining said annular shoulder (32) interposed therebetween; an opposing interior annular shoulder (56) on said interior surface of said countercap (16), wherein said first section (52) of said countercap has an interior circumference greater than the interior circumference of said second section (54) of said counter-cap, thus, defining said annular shoulder (56) interposed therebetween, said bottle holder and said countercap so dimensioned that when said first end (48) of said sleeve is slidably mounted over said second end (24) of said bottle holder, said shoulder (56) of said sleeve engages said opposing shoulder (32) of said bottle holder, whereby said sleeve cannot be advanced further.

3. A disposable nurser as in claim 1 wherein said attaching means for said nipple holding cap (14) further comprises screw threads (62) formed on said exterior surface (44) of said countercap sleeve proximal to said first end (48) of said sleeve, and screw threads (60) formed on said interior surface of said nipple holding cap (14) such that said screw threads (60) of said nipple holding cap (14) may be removably engaged with said screw thread (62) of said countercap (16), whereby said nipple (12) when mounted in said nipple holding cap (14) is sealingly connected to said first end (22) of said bottle holder (18).

4. A disposable nurser as in claim 1 wherein said countercap (16) further comprises at least one protrusion (58) projecting from said interior (46) surface (46) of said countercap (16) located at a predetermined point intermediate said first end (48) of said countercap (16) and said second end (50) of said countercap.

5. A disposable nurser as in claim 2 wherein said countercap (16) further comprises at least one protrusion (58) aligned longitudinal to the axis of said bottle holder (18) located on said interior surface of said first section (52) of said sleeve extending from said shoulder (56) of said countercap (16) to a predetermined point proximal to said first end (48) of said countercap (16).

Patentansprüche

1. Einwegsaugflasche (10) mit:

einem Flaschenhalter (18) mit einem hohen Kegelstumpf mit einem ersten und einem zweiten Teil, mit einer äußeren und einer inneren Oberfläche und mit ersten (22) und zweiten Enden (24), wobei beide Enden offen sind und das zweite Ende des hohlen Kegelstumpfes

einen kleineren Umfang hat als das erste Ende des hohen Kegelstumpfes;

einer flexiblen Flasche (20) mit einem offenen Ende (34) und einem geschlossenen Ende (36) und mit einem ersten Teil (38), welches das offene Ende einschließt, und einem zweiten Teil (40), welches das geschlossene Ende einschließt, wobei das zweite Teil der flexiblen Flasche lösbar in dem Flaschenhalter (18) derart eingefügt ist, daß das geschlossene Ende (36) nächst dem zweiten Ende (24) des Flaschenhalters sich befindet und das erste Teil (38) der flexiblen Flasche sich über das erste Ende (22) des Flaschenhalters hinaus über dem ersten Ende (22) des Flaschenhalters und nach unten neben die äußere Oberfläche des Flaschenhalters erstreckt;

einer Gegenkappe (16) mit einer Hülse mit äußeren (44) und inneren (46) Oberflächen, mit einem ersten Ende (48) und einem zweiten Ende (50) und mit einem ersten Abschnitt (52) sowie einem zweiten Abschnitt (54), wobei die Hülse solche Maße hat und derart aufgebaut ist, daß das erste Ende (48) der Hülse verschieblich über dem zweiten Ende (24) des Flaschenhalters und dem ersten Teil (38) der flexiblen Flasche angebracht werden kann, derart, daß das erste Teil (38) der flexiblen Flasche zwischen der äußeren Oberfläche des Flaschenhalters und der inneren Oberfläche (46) der Hülse ruht, und wobei die Hülse zu einer Anschlagposition geschoben werden kann derart, daß das erste Ende (48) der Hülse sich nächst dem ersten Ende (22) des Flaschenhalters befindet;

einem Anschlagmittel (32, 56), welches an einer vorbestimmten Stelle zwischen dem ersten (22) und dem zweiten Ende (24) des Flaschenhalters (18) derart angeordnet ist,

daß wenn die Gegenkappe auf dein Flsschenhalrer angebracht ist, das erste Ende (48) der Gegenkappe daran gehindert wird, über die Anschlagposition hinaus sich vorzubewegen;

einem Saughütchen (12), welches abnehmbar an dem ersten Ende (22) des Flaschenhalters verbunden ist;

einer Saughütchenhaltekappe (14), an welcher das Saughütchen lösbar angebracht werden kann, wobei die Kappe eine innere Oberfläche hat; und

einem Anbringmittel (60, 62), wobei die Saughütchenhaltekappe (14) abnehmbar derart an der Gegenkappe (16) angebracht werden kann, daß das Saughütchen mit dem ersten Ende (22) des Flaschenhalters verbunden ist und abnehmbar in Strömungslage der Flüssigkeit mit der flexiblen Flasche (20) abgedichtet ist.

2. Einwegsaugflasche nach Anspruch 1, wobei das Anschlagmittel eine Ringschulter (32) aufweist, die auf der äußeren Oberfläche des Flaschenhalters (18) angeordnet ist, wobei das erste Teil des Flaschenhalters einen größeren Außenumfang hat als der Außenumfang des zweiten Teils des Flaschenhalters, wodurch die dazwischen eingebrachte Ringschulter (32) bestimmt wird; wobei eine gegenüberliegende innere Ringschulter (56) auf der inneren Oberfläche der Gegenkappe (16) vorgesehen ist und der erste Abschnitt (52) der Gegenkappe einen größeren Innenumfang hat als der Innenumfang des zweiten Abschnittes (54) der Gegenkappe, wodurch die dazwischen eingebrachte Ringschulter (56) bestimmt wird, wobei der Flaschenhalter und die Gegenkappe derart bemessen sind, daß wenn das erste Ende (48) der Hülse gleitbar über dem zweiten Ende (24) des Flaschenhalters angebracht ist, die Schulter (56) der Hülse mit der gegenüberliegenden Schulter (32) des Flaschenhalters in Eingriff tritt, wodurch die Hülse nicht weiter vorbewegt werden kann.

3. Einwegsaugflasche nach Anspruch 1, wobei das Anbringmittel für die Saughütchenhaltekappe ferner Schraubgewinde (62) aufweist, welches auf der äußeren Oberfläche (44) der Gegenkappenhülse nahe dem ersten Ende (48) der Hülse gebildet ist, und ein Schraubgewinde (60) auf der inneren Oberfläche der Saughütchenhaltekappe (14) derart gebildet ist, daß dieses Schraubgewinde (60) der Saughütchenhaltekappe (14) mit dem Schraubgewinde (62) der Gegenkappe (16) in lösbaren Eingriff kommen kann, wodurch das Saughütchen (12), wenn es in der Saughütchenhaltekappe (14) angebracht ist, dichtend mit dem ersten Ende (22) des Flaschenhalters (18) verbunden ist.

4. Einwegsaugflasche nach Anspruch 1, wobei die Gegenkappe (16) ferner mindestens einen vorstehenden Höcker (58) aufweist, welcher aus der inneren Oberfläche (46) der Gegenkappe (16) herausragt, der an einer bestimmten Stelle zwischen dem ersten Ende (48) der Gegenkappe und dem zweiten Ende (50) der Gegenkappe angeordnet ist.

5. Einwegsaugflasche nach Anspruch 2, wobei die Gegenkappe (16) ferner mindestens eine vorstehende Rippe (58) aufweist, die längs der Achse des Flaschenhalters (18) ausgerichtet und auf der inneren Oberfläche des ersten Abschnittes (52) der

Hüls angeordnet ist und sich von der Schulter (56) bezüglich der Gegenkappe zu einer vorbestimmten Stelle nahe dem ersten Ende (48) der Gegenkappe erstreckt.

Revendications

1. Biberon jetable (10) comprenant

un porte-flacon (18) comprenant un tronc de cône creux ayant une première partie et une seconde partie, ayant une surface extérieure et une surface intérieure et ayant une première extrémité (22) et une seconde extrémité (24), lesdites deux extrémités étant ouvertes, ladite seconde extrémité dudit tronc de cône creux ayant une circonférence plus petite que ladite première extrémité dudit tronc de cône creux ;
un flacon souple (20) ayant une extrémité ouverte (34) et une extrémité fermée (36) et ayant une première partie (38) comprenant ladite extrémité ouverte et une seconde partie (40) comprenant ladite extrémité fermée, ladite seconde partie dudit flacon souple étant insérée de façon amovible à l'intérieur dudit porte-flacon (18), de telle manière que ladite extrémité fermée (36) est à proximité de ladite seconde extrémité (24) dudit porte-flacon et ladite première partie (38) dudit flacon souple s'étend au-delà de ladite première extrémité (22) dudit porte-flacon, sur ladite première extrémité (22) dudit porte flacon, et vers le bas de façon adjacente à ladite surface extérieure dudit porte-flacon ;
un contre-bouchon (16) comprenant une douille ayant des surfaces extérieure (44) et intérieure (46), ayant une première extrémité (48) et une seconde extrémité (50), et ayant une première partie (52) et une seconde partie (54), ladite douille étant dimensionnée et configurée de sorte que ladite première extrémité (48) de ladite douille peut être montée de façon coulissante sur ladite seconde extrémité (24) dudit porte-flacon et ladite première partie (38) dudit flacon souple, de sorte que ladite première partie (38) dudit flacon souple repose entre ladite surface extérieure dudit porte-flacon et ladite surface intérieure (46) de ladite douille, et ladite douille peut coulisser jusqu'à une position d'arrêt, de sorte que ladite première extrémité (48) de ladite douille est à proximité de ladite première extrémité (22) dudit porte-flacon ;
un moyen d'arrêt (32, 56) situé à un point prédéterminé et intermédiaire entre ladite première extrémité (22) et ladite seconde extrémité (24) dudit porte-flacon (18), de telle sorte que lorsque ledit contrebouchon est monté sur ledit porte-flacon, ladite première extrémité (48) dudit contre-bouchon ne peut pas avancer au-delà de ladite position d'arrêt ;
une tétine (12) reliée de façon amovible à ladite première extrémité (22) dudit porte-flacon ;
un bouchon de maintien de tétine (14) auquel ladite tétine peut être montée de façon amovible, ledit bouchon ayant une surface intérieure ; et
un moyen de fixation (60, 62) dans lequel ledit bouchon de maintien de tétine (14) peut être fixé de façon amovible audit contre-bouchon (16), de telle façon que ladite tétine est reliée à ladite première extrémité (22) dudit porte-flacon et est appliquée de façon étanche et amovible en une relation d'écoulement de liquide audit flacon souple (20).

2. Biberon jetable selon la revendication 1, dans lequel ledit moyen d'arrêt comprend un épaulement annulaire (32) situé sur ladite surface extérieure dudit porte-flacon (18), dans lequel ladite première partie dudit porte-flacon a une circonférence extérieure supérieure à la circonférence extérieure de ladite seconde partie dudit porte-flacon, définissant ainsi ledit épaulement annulaire (32) intercalé entre elles ; un épaulement annulaire intérieur opposé (56) sur ladite surface intérieure dudit contre-bouchon (16), dans lequel ladite première partie (52) dudit contre-bouchon a une circonférence intérieure supérieure à la circonférence intérieure de ladite seconde partie (54) dudit contre-bouchon, définissant ainsi ledit épaulement annulaire (56) intercalé entre elles, ledit porte-flacon et ledit contre-bouchon étant dimensionnés de sorte que lorsque ladite première extrémité (48) de ladite douille est montée de façon coulissante sur ladite seconde extrémité (24) dudit porte-flacon, ledit épaulement (56) de ladite douille coopère avec ledit épaulement opposé (32) dudit porte-flacon, ce par quoi ladite douille ne peut pas être avancée plus loin.

3. Biberon jetable selon la revendication 1, dans lequel ledit moyen de fixation pour ledit bouchon de maintien de tétine comprend de plus des filetages de vis (62) formés sur ladite surface extérieure (44) de ladite douille de contre-bouchon à proximité de ladite première extrémité (48) de ladite douille, et des filetages de vis (60) formés sur ladite surface intérieure dudit bouchon de maintien de tétine (14) de telle sorte que lesdits filetages de vis (60) dudit bouchon de maintien de tétine (14) peuvent coopérer de façon amovible avec lesdits filetages de vis (62) dudit contre-bouchon (16), ce par quoi ladite tétine (12) lorsqu'elle est montée dans ledit bouchon de maintien de tétine (14) est reliée hermétiquement à ladite première extrémité (22) dudit porte-flacon (18).

4. Biberon jetable selon la revendication 1, dans

lequel ledit contre-bouchon (16) comprend de plus au moins une bosse saillante (58) faisant saillie de ladite surface intérieure (46) dudit contre-bouchon (16) et située à un point prédéterminé et intermédiaire entre ladite première extrémité (48) dudit contre-bouchon et ladite seconde extrémité (50) dudit contre-bouchon.

5. Biberon jetable selon la revendication 2, dans lequel ledit contre-bouchon (16) comprend de plus au moins une arête saillante (58) alignée longitudinalement avec l'axe dudit porte-flacon (18) et située sur ladite surface intérieure de ladite première partie (52) de ladite douille et s'étendant à partir dudit épaulement (56) dudit contrebouchon jusqu'à un point prédéterminé à proximité de ladite première extrémité (48) dudit contre-bouchon.

Fig_1_

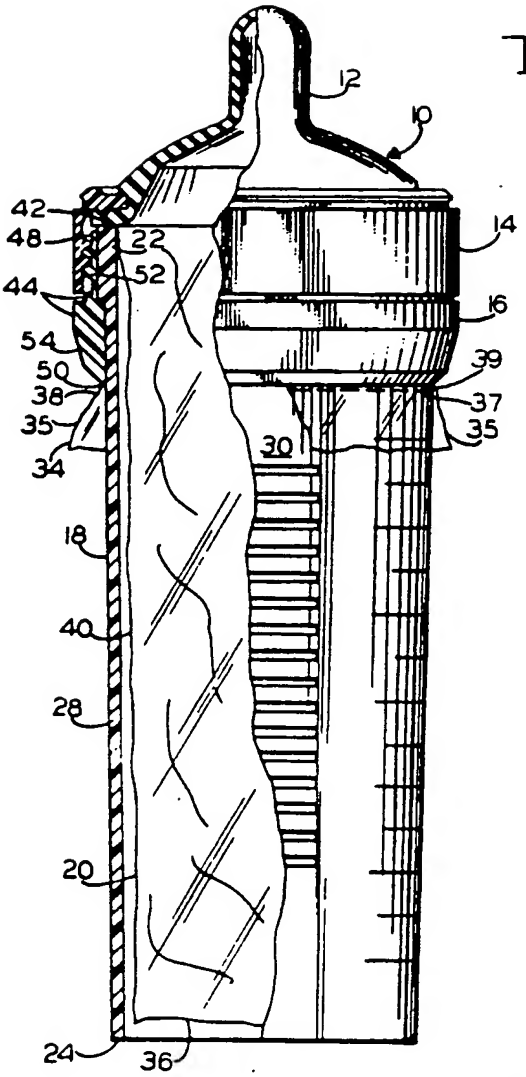
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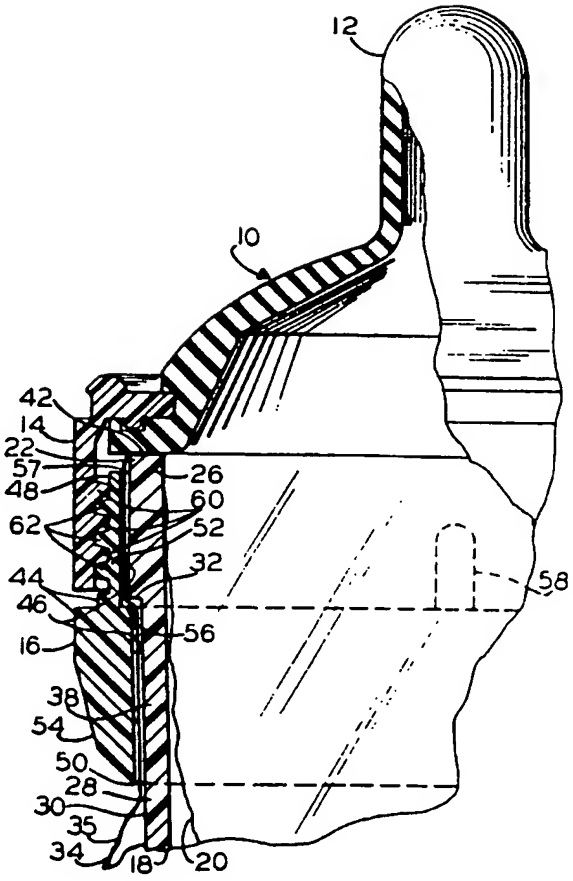
Fig_2_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009188461
WPI Acc No: 1992-315901/199238
Disposable nurser with flexible liners and bottles - has counter cap with sleeve slidably mounted around bottle holder and nipple holding cap
Patent Assignee: SIGNORINI A (SIGN-I)
Inventor: SIGNORINI A
Number of Countries: 027 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9214437	A1	19920903	WO 90US6951	A	19901129	199238 B
AU 9211500	A	19920915	WO 90US6951	A	19901129	199251
			AU 9211500	A	19901129	
EP 536344	A1	19930414	WO 90US6951	A	19901129	199315
			EP 92904073	A	19901129	
EP 536344	A4	19940727	EP 92904073	A	19920000	199532
EP 536344	B1	19971022	WO 90US6951	A	19901129	199747
			EP 92904073	A	19901129	
DE 69031630	E	19971127	DE 631630	A	19901129	199802
			WO 90US6951	A	19901129	
			EP 92904073	A	19901129	

Priority Applications (No Type Date): WO 90US6951 A 19901129; US 90470576 A 19900126
Cited Patents: US 2448569; US 2497198; US 2508481; US 2520335; US 2643448; US 2826324; US 31613 i1; US 3362555; US 3762542; US 3790017; US 4238040; CH 494687; EP 345694; US 2517457
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9214437	A1	E	20	A61J-009/00	
Designated States (National): AU BB BG BR CA FI HU JP KR MC NO RO SU					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU NL SE					
AU 9211500	A				Based on patent WO 9214437
EP 536344	A1	E	33	A61J-001/00	Based on patent WO 9214437
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
EP 536344	B1	E	9	A61J-001/00	Based on patent WO 9214437
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LI LU NL SE					
DE 69031630	E			A61J-001/00	Based on patent EP 536344
					Based on patent WO 9214437

Abstract (Basic): WO 9214437 A

The disposable nurser comprises a bottle holder comprising a hollow frustum having a first portion and a second portion, having an exterior and an interior surface and having first and second ends. A flexible bottle has an open end and a closed end and having a first part including the open end and a second part including the closed end. The second part of the flexible bottle is removably inserted within said bottle holder.

A countercap comprises a sleeve has exterior and interior surfaces, having a first end and a second end, and has a first section and a second section. The sleeve so sized and configured that the first end of said sleeve may be slidably mounted over the second end of the bottle holder and the first part of the flexible bottle. The first part of the flexible bottle rests between the exterior surface of the bottle holder and the interior surface of the sleeve.

USE/ADVANTAGE - Need for a disposable nursing system which will

hold the flexible bottle firmly during the filling process, would permit heating in a microwave, and provide a tight seal and secure connection between the nipple and the flexible bottle.

Dwg.1/2

Abstract (Equivalent): EP 536344 B

A disposable nurser (10) comprising: a bottle holder (18) comprising a hollow frustum having a first portion and a second portion, having an exterior and an interior surface and having first (22) and second (24) ends, both said ends being open, said second end of said hollow frustum having a smaller circumference than said first end of said hollow frustum; a flexible bottle (20) having an open end (34) and a closed end (36) and having a first part (38) including said open end and a second part (40) including said closed end, said second part of said flexible bottle removably inserted within said bottle holder (18) such that said closed end (36) is proximal to said second end (24) of said bottle holder and said first part (38) of said flexible bottle extends beyond said first end (22) of said bottle holder, over said first end (22) of said bottle holder, and downward adjacent to said exterior surface of said bottle holder; a countercap (16) comprising a sleeve having exterior (44) and interior (46) surfaces, having a first end (48) and a second end (50), and having a first section (52) and a second section (54), said sleeve so sized and configured that said first end (48) of said sleeve may be slidably mounted over said second end (24) of said bottle holder and said first part (38) of said flexible bottle, such that said first part (38) of said flexible bottle rests between said exterior surface of said bottle holder and said interior surface (46) of said sleeve, and said sleeve may slide to a stop position, such that said first end (4) of said sleeve is proximal to said first end (22) of said bottle holder; a stop means (32,56) located at a predetermined point intermediate said first (22) and said second (24) ends of said bottle holder (18) such that when said countercap (16) is mounted on said bottle holder, said first end (48) of said countercap (16) is prevented from advancing beyond said stop position; a nipple (12) removably connected to said first end (22) of said bottle holder; a nipple holding cap (14) to which said nipple may be removably mounted, said cap having an interior surface; and an attaching means (60,62) wherein said nipple holding cap (14) may be removably attached to said countercap (16), such that said nipple is connected to said first end (22) of said bottle holder and is removably sealed in liquid flow relationship to said flexible bottle (20).

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Derwent Class: P33; Q32

International Patent Class (Main): A61J-001/00; A61J-009/00

International Patent Class (Additional): A61J-009/08; B65D-025/16